

## Operator Manual

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Draeger Safety, Inc.  
Breathalyzer® Division  
Durango, Colorado

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**Safety**

For correct and effective use of the MA 7110 System, it is essential to read and strictly follow the instructions contained in this document. The MA 7110 System is to be used only for the purposes specified herein.

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**Maintenance**

Repairs of the MA 7110 System may only be performed by Draeger Safety, Inc., Breathalyzer Division, or an authorized service technician.

Only original Draeger spare parts may be used.

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## Breath Test Sequence Warm-Up Phase

When you turn the Alcotest® 7110 MKIII-C on, an internal self-test is performed and the following will be displayed on the LCD:

MEMORY TEST • OK  
WARMING UP  
NOT READY  
LOCATION: DEPARTMENT/AGENCY  
10/16/2002 11:35 AM

PURGE CYCLE

MODEM OK  
WARMING UP  
SIMULATOR TEMP XX.X C 20:00  
SIMULATOR EQUILIB. XX.X C 1:00

NOT READY  
WARMING UP

READY

After the date/time display, the Alcotest® 7110 MKIII-C automatically purges the cuvette and breath hose with ambient air. Following the purging cycle, the various screens shown above will be displayed alternately until the Alcotest® 7110 MKIII-C **READY** mode is displayed.

Before a test can be conducted, the instrument will run a temperature check to see if the simulator is within operational limits, 34.0°C (+/- .2°C). Once the simulator has reached the operating temperature, a simulator equilibrium countdown timer is started.

Depending on the length of time between Breath Tests, or fluctuations in room temperature, the 7110 may have to go through the 'Warm Up' phase before performing a Breath Test. When the LCD displays, **STANDBY (READY = > PUSH BUTTON)**, push the orange '**Start**' button to start the 'Warm Up' phase.

If **CHANGE SOLUTION** or **CONTACT OAT** messages are displayed, the 7110 instrument has detected a solution error. It is possible that the allotted time or number of tests between solution changes has elapsed, the solution has been depleted and is not at the required BAC level that it should be to perform a correct test, or the solution certification has expired. A Periodic test will need to be performed before the Alcotest® 7110 MKIII-C can return to the **READY** mode. If a Periodic Test is required, contact the 'Officer in Charge'.

When the Alcotest® 7110 MKIII-C is ready to begin a Breath Test Sequence, the instrument will beep twice, and **READY** will be displayed on the LCD.

<p><b>NOTE:</b> The test procedure can be manually aborted at any given time by pressing the orange '<b>Start</b>' button for at least two (2) seconds. The instrument will return to the <b>READY</b> mode.</p>
--

## Breath Test Sequence

Press the orange "**Start**" button to begin the Breath Test sequence. The following prompts will be displayed on the LCD:

### **SOLUTION CHANGE REQUIRED IN XXX DAYS OR XX TESTS**

- When the number of tests displays 0, testing will not be allowed until the instrument has been certified.

### **SCAN OFFICER OPERATOR CARD <Y OR N>**

- Press '**Y**' to scan the card.

**SCAN OPERATOR CARD, ESC TO ABORT** will appear on the screen.

- Scan the officer operator card, or
- Press '**Esc**' to perform a **QUICK RESET** and abort the Breath Test Sequence.

- Press '**N**' if the operator does not have a card, or is unable to swipe the ID card.

### **OPERATOR ID # :**

- Type in the ID information via the keyboard.
  - If the operator's ID is invalid, one of two errors may be displayed on the LCD:  
**INVALID OPERATOR CARD - ACCESS DENIED**, or  
**CERTIFICATION EXPIRED- ACCESS DENIED**
  - If either of these messages are displayed, the instrument will perform a **QUICK RESET** and will return to the **READY** mode. *The operator will need to contact the person responsible for issuing and updating information on operator cards.*

### **OPERATOR PASSWORD:**

- Type in the password.
  - If the password is invalid, one of two errors may be displayed on the LCD:  
**INVALID OPERATOR CARD - ACCESS DENIED**, or  
**CERTIFICATION EXPIRED- ACCESS DENIED**
  - If either of these messages are displayed, the instrument will perform a **QUICK RESET** and will return to the **READY** mode. *The operator will need to contact the person responsible for issuing and updating information on operator cards.*

### **OPERATOR CASE #:**

- Type in the case or incident number and press the '**Enter**' key.

### **REVIEW DATA <Y/N>**

- Allows the operator to review the operator ID information for accuracy.
  - Press '**Y**' to review the following data fields: **OPERATOR ID#**, **OPERATOR PASSWORD**, **OPERATOR FIRST**, **OPERATOR MIDDLE**, **OPERATOR PHONE**, **OPERATOR DEPT.**, **CERT. EXPIRES**, **OPERATOR ACCESS LEVEL**, **OPERATOR CASE #**. *Correct errors by typing the new data into the correct prompt and pressing the '**Enter**' key.*
  - Press '**N**' to proceed to the Test Menu screen.

After the operator information has been accepted, the following 'Test Menu' will be displayed on the LCD:

**<1> IMP CONS   <2> PROT CUST   <3> OTHER   <4> DOT**

- Choose the appropriate test sequence by typing in the number and pressing the '**Enter**' key.  
**IMP CONS** = Implied Consent Test      **PROT CUST** = Protective Custody Test  
**OTHER** = Other appropriate tests      **DOT** = Department of Transportation Test

## Implied Consent Breath Test

After entering the 'Operator' information, press **1** to proceed with the 'Implied Consent' test. Follow the instructions on the LCD display, and enter the information into each field following the prompts.

### LICENSE IN POSSESSION <Y/N>

- If 'Yes', **SCAN CARD OR PRESS ESC** will appear on the display.
  - **Scan the drivers license.** Wait a few seconds after scanning in the driver's license for the information on the driver's license to download/register into the 7110. If the driver's license scans correctly, the operator will need to enter limited information about the subject. Verify the data in each prompt is correct and press the '**Enter**' key after each prompt.
  - **Press Esc to manually enter the driver's license number.** If the driver's license does not scan properly, or is not in the subject's possession, the operator will be required to enter all of the necessary information about the subject via the keyboard.
- If 'No', type in the information required after the following prompts.

**SUBJECT LAST NAME:**

**SUBJECT FIRST NAME:**

**SUBJECT MIDDLE INITIAL:**

**D.O.B.: MM/DD/YYYY**

**SUBJECT SOCIAL SECURITY # :**

- This is an optional field. Press the '**Enter**' key to skip the prompt and proceed to the next question.
- The number entered must be hyphenated (i.e. 555-55-5555).

**MALE/FEMALE <M/F> :**

**SUBJECT ADDRESS:**

**SUBJECT CITY:**

**LICENSE STATE/COUNTRY:**

**LICENSE NUMBER:**

**LICENSE CLASS:**

**RESTRICTIONS:**

- If the driver is under 18 years of age, two additional prompts will appear allowing the operator to enter the driving time restrictions.

**FROM: HH:MMAM/PM**

**TO: HH:MMAM/PM**

**LICENSE ENDORSEMENTS:**

**LICENSE EXPIRES: MM/DD/YYYY**

**SEATBELT? <Y/N/U>:**

- Enter '**Y**' for yes, '**N**' for no, '**U**' for unknown.

**PBT? <Y/N/U>:**

- Enter '**Y**' for yes, '**N**' for no, '**U**' for unknown.
  - If Yes, enter the PBT result (i.e. 0.080 or .080)
  - If No, continue with questions.
  - If Unknown, continue with questions.

**ARRESTED FOR OUI ALCOHOL? <Y/N>:**

- If '**Yes**', continue with questions.
- If '**No**', **NOT IMPLIED CONSENT TEST** will appear on the LCD and the 7110 will return to the 'Test Menu'. Follow Massachusetts procedure for further instructions. If no further testing is required for the subject, perform a **QUICK RESET** to clear the subject's data from the 7110.

## Implied Consent Breath Test

**DATE OF ARREST: (MM/DD/YYYY)**

**ADDRESS OF ARREST:**

**PUBLIC WAY? <Y/N> :**

- If 'Yes', continue with questions.
- If 'No', **NOT IMPLIED CONSENT TEST** will appear and the 7110 will return to the 'Test Menu'. Follow Massachusetts procedure for further instructions. If no further testing is required for the subject, perform a **QUICK RESET** to clear the subject's data from the 7110.

**ARRESTING OFFICER:**

**ARRESTING OFFICER ID:**

- Maximum of 6 characters.

**OBSERVED DRIVING? <Y/N>:**

- If 'Yes', continue with questions.
- If 'No', **OPERATION PROVED BY:** will appear on the screen.
  - Maximum of 35 characters allowed.

**UNSTEADY ON FEET <Y/N>:**

**SLURRED SPEECH <Y/N>:**

**GLASSY EYES <Y/N>:**

**BLOODSHOT EYES <Y/N>:**

**ODOR 1=STRONG 2= MODER 3=SLIGHT 4=NO:**

**OTHER GROUNDS:**

- Maximum of 35 characters allowed.

**OFFERED TEST? <Y/N>:**

- If 'Yes', continue with questions.
- If 'No', **NOT IMPLIED CONSENT TEST** will appear and the 7110 will return to the 'Test Menu'. Follow Massachusetts procedure for further instructions. If no further testing is required for the subject, perform a **QUICK RESET** to clear the subject's data from the 7110.

**BREATH OR BLOOD 1=BREATH 2=BLOOD :**

**ADVISED OF REFUSAL CONSEQUENCES <Y/N>:**

- If 'Yes', continue with questions.
- If 'No', **CONSENT NEEDED** will appear on the screen, the 7110 will perform a **QUICK RESET** and will return to the **READY** mode.

**REFUSED BREATH TEST? <Y/N>:**

- If 'Yes', proceed to the 'Breath Test Refusal' section.
- If 'No', continue with questions.

**FIRST OBSERVED: MM/DD/YYYY HH:MM AM/PM**

- Enter the date and time the subject was first observed.
- If the time entered, is less than the required 15 minute waiting time, the 7110 will display **15 MIN OBSERVATION COUNTDOWN** after the **REVIEW DATA <Y/N>** prompt and will begin a countdown timer until a 15 minute observation period has been reached.

## Implied Consent Breath Test

### REVIEW DATA <Y/N>

- Enter '**Y**' to display the previous entries.
  - Verify the data is correct and press the '**Enter**' key after each entry is displayed. *Correct errors by typing the new data into the correct prompt and pressing the '**Enter**' key.*
- Enter '**N**' to continue with the Breath Test sequence.
  - The 7110 will proceed with a **PURGING** cycle, an **AMBIENT AIR CHECK** followed by an **AIR BLANK CHECK**.
  - When the instrument is ready for the Breath Test, **PLEASE BLOW/R >** will appear on the screen.

If 3 minutes of time elapses before the Breath Test is actually given, **READY TO BLOW EXPIRED**, followed by **BREATH TEST WILL BE REPEATED** will appear on the screen.

The 7110 will then proceed with a **PURGING** cycle, an **AMBIENT AIR CHECK**, an **AIR BLANK CHECK** and the instrument will return to the ready status **PLEASE BLOW/R >**.

The 7110 will go through this process twice. The third time the Breath Test option has expired, **READY TO BLOW EXPIRED** will be displayed and the following menu will appear:

**<1> REFUSAL <2> UNABLE <3> RESTART TEST**

Select Option 1 (**REFUSAL**) if the subject refuses to take the Breath Test. *Refer to the 'Breath Test Refusal' section for further instructions.*

Select Option 2 (**UNABLE**) if the subject is unable to provide a Breath Test.

- The LCD will display **UNABLE TO PROVIDE SAMP** followed by **COPIES? 1-5**
  - Enter the number of printouts required.
  - **Make sure the printout is accurate and readable.** Once the data is downloaded into the CPC or the BPC, copies of the printout cannot be retrieved.
- **PRINTOUT COMPLETE? <Y>ES <R>ETRY** will appear.
  - Enter '**Y**' to complete the process.
  - Enter '**R**' to reprint the forms.
- Once the form is printed to satisfaction, **DATA STORED** will appear on the LCD, followed by a **PURGING** cycle.
- **REMOVE MOUTHPIECE** will appear and the instrument will return to the **READY** mode.

Select Option 3 (**RESTART TEST**) to restart the Breath Test sequence.

- The 7110 will then proceed with a **PURGING** cycle, an **AMBIENT AIR CHECK**, and an **AIR BLANK CHECK**.
- When **PLEASE BLOW/R** appears, the operator can perform a Breath Test.



## Implied Consent Breath Test

The instrument is ready for the Breath Test when **PLEASE BLOW/R >** appears on the LCD screen. Follow the steps below to perform a Breath Test. *If the subject refuses to take a Breath Test press 'R' and follow the instructions in the 'Breath Test Refusal' section.*

- Remove the breath hose from the storage recess and insert a new mouthpiece.
- If possible, the subject should be seated at the time of the Breath Test.
- Instruct the subject to inhale calmly and then blow continuously and evenly into the mouthpiece for as long as possible. *Asterisks*, on the display, indicate if an adequate breath sample is being delivered.
- The subject should continue to blow until **STOP** is displayed on the LCD.
- If a sufficient breath sample was acquired, the 7110 will proceed with a **PURGING** cycle, an **AMBIENT AIR CHECK**, an **AIR BLANK TEST**, and a **CALIBRATION TEST**.

<p><b>NOTE:</b> If a sufficient breath sample was <i>not</i> acquired, follow the steps in the 'Breath Test Error' section.</p> <p>If the Calibration Test Failed, a Breath Test cannot be performed until the solution has been changed and a <b>PER-TEST</b> has been conducted. Contact the 'Officer in Charge for further instructions.</p>
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- The **second** Breath Test can be conducted when the **PLEASE BLOW/R >** prompt re-appears.
  - If the two Breath Tests are within a 0.02% agreement, the instrument will proceed to the next prompt.
  - If the two Breath Tests are not within a 0.02% agreement, **TEST OUTSIDE +/- TOL** will appear on the LCD and the 7110 will initiate an additional breath test.
- If the subject's breath sample met all of the specified requirements, the 7110 will display the following:
  - COPIES? 1-5**
    - Enter the number of printouts required.
    - **Make sure the printout is accurate and readable.** Once the data is downloaded into the CPC or the BPC, copies of the printout cannot be retrieved.
  - PRINTOUT COMPLETE? <Y>ES <R>ETRY**
    - Enter '**Y**' to complete the process.
    - Enter '**R**' to reprint the forms.
- Once the form is printed to satisfaction, **DATA STORED** followed by **REMOVE MOUTHPIECE** will appear on the display and the instrument will return to the **READY** mode.
- Remove mouthpiece and replace sampling hose in storage recess.

## Protective Custody Breath Test

After entering the 'Operator' information, press **2** to proceed with the 'Protective Custody' test. Follow the instructions on the LCD display, and enter the information into each field following the prompts.

### LICENSE IN POSSESSION <Y/N>

- If '**Yes**', **SCAN CARD OR PRESS ESC** will appear on the display.
  - **Scan the drivers license.** Wait a few seconds after scanning in the driver's license for the information on the driver's license to download/register into the 7110. If the driver's license scans correctly, the operator will need to enter limited information about the subject. Verify the data is correct and press the '**Enter**' key after each prompt.
  - **Press Esc to manually enter the driver's license number.** If the driver's license does not scan properly, or is not in the subject's possession, the operator will be required to enter all of the necessary information about the subject via the keyboard.
- If '**No**', type in the information required after the following prompts.

**SUBJECT LAST NAME:**

**SUBJECT FIRST NAME:**

**SUBJECT MIDDLE INITIAL:**

**SUBJECT D.O.B.:**

- Enter in the format of MM/DD/YYYY.

**SUBJECT SOCIAL SECURITY # :**

- This is an optional field. Press the '**Enter**' key to skip the prompt and proceed to the next question.
- The number entered must be hyphenated (i.e. 555-55-5555).

**MALE/FEMALE <M/F> :**

**SUBJECT ADDRESS:**

**SUBJECT CITY:**

**LICENSE STATE/COUNTRY:**

**LICENSE NUMBER:**

**REVIEW DATA <Y/N>**

- Enter '**Y**' to display the previous entries.
  - Verify the data is correct and press the '**Enter**' key after each entry is displayed. *Correct errors by typing the new data into the correct prompt and pressing the '**Enter**' key.*
- Enter '**N**' to proceed with the Breath Test sequence.
  - The 7110 will proceed with a **PURGING** cycle, an **AMBIENT AIR CHECK** followed by an **AIR BLANK CHECK**.

**PLEASE BLOW/R >**

*If the subject refuses to take a Breath Test press '**R**' and follow the instructions in the 'Breath Test Refusal' section.*

- Remove the breath hose from the storage recess and insert a new mouthpiece.
- If possible, the subject should be seated at the time of the Breath Test.
- Instruct the subject to inhale calmly and then blow continuously and evenly into the mouthpiece for as long as possible. *Asterisks*, on the display, indicate if an adequate breath sample is being delivered.
- The subject should continue to blow until **STOP** is displayed on the LCD.
- If a sufficient breath sample was acquired, the 7110 will proceed with a **PURGING** cycle, an **AMBIENT AIR CHECK**, an **AIR BLANK TEST**, and a **CALIBRATION TEST**.

## Protective Custody Breath Test

**NOTE:** If a sufficient breath sample was *not* acquired, follow the steps in the 'Breath Test Error' section. If the Calibration Test Failed, a Breath Test cannot be performed until the solution has been changed and a **PER-TEST** has been conducted. Contact the 'Officer in Charge for further instructions.

### PRINT RESULTS <Y/N>

- Enter '**Y**' to proceed to the next prompt.
- Enter '**N**' to display **PRINTOUT COMPLETE? <Y>ES <R>ETRY**.
  - Enter '**Y**' to complete the printout process and return to the **READY** mode, or
  - Enter '**R**' to redisplay the **PRINT RESULTS <Y/N>** option.

### COPIES? 1-5

- Enter the number of printouts required.
- **Make sure the printout is accurate and readable.** Once the data is downloaded into the CPC or the BPC, copies of the printout cannot be retrieved.

### PRINTOUT COMPLETE? <Y>ES <R>ETRY

- Enter '**Y**' to complete the printout process, or
- Enter '**R**' to re-print the form.
  - Once the form is printed to satisfaction the instrument will display **DATA STORED, REMOVE MOUTHPIECE**, and return to the **READY** mode.

## Other Breath Test

After entering the 'Operator' information, press **3** to proceed with the 'Other' test. Follow the instructions on the LCD display, and enter the information into each field following the prompts.

### LICENSE IN POSSESSION <Y/N>

- If '**Yes**', **SCAN CARD OR PRESS ESC** will appear on the display.
  - **Scan the drivers license.** Wait a few seconds after scanning in the driver's license for the information on the driver's license to download/register into the 7110. If the driver's license scans correctly, the operator will need to enter limited information about the subject. Verify the data is correct and press the '**Enter**' key after each prompt.
  - **Press Esc to manually enter the driver's license number.** If the driver's license does not scan properly, or is not in the subject's possession, the operator will be required to enter all of the necessary information about the subject via the keyboard.
- If '**No**', type in the information required after the following prompts.

**SUBJECT LAST NAME:**

**SUBJECT FIRST NAME:**

**SUBJECT MIDDLE INITIAL:**

**SUBJECT D.O.B.:**

**SUBJECT SOCIAL SECURITY # :**

- This is an optional field. Press the '**Enter**' key to skip the prompt and proceed to the next question.
- The number entered must be hyphenated (i.e. 555-55-5555).

**MALE/FEMALE <M/F> :**

**SUBJECT ADDRESS:**

**SUBJECT CITY:**

**LICENSE STATE/COUNTRY:**

**LICENSE NUMBER:**

**REVIEW DATA <Y/N>**

- Enter '**Y**' to display the previous entries.
  - Verify the data is correct and press the '**Enter**' key after each entry is displayed. *Correct errors by typing the new data into the correct prompt and pressing the '**Enter**' key.*
- Enter '**N**' to proceed with the Breath Test sequence.
  - The 7110 will proceed with a **PURGING** cycle, an **AMBIENT AIR CHECK** followed by an **AIR BLANK CHECK**.

**PLEASE BLOW/R >**

*If the subject refuses to take a Breath Test press '**R**' and follow the instructions in the 'Breath Test Refusal' section.*

- Remove the breath hose from the storage recess and insert a new mouthpiece.
- If possible, the subject should be seated at the time of the Breath Test.
- Instruct the subject to inhale calmly and then blow continuously and evenly into the mouthpiece for as long as possible. *Asterisks*, on the display, indicate if an adequate breath sample is being delivered.
- The subject should continue to blow until **STOP** is displayed on the LCD.
- If a sufficient breath sample was acquired, the 7110 will proceed with a **PURGING** cycle, an **AMBIENT AIR CHECK**, an **AIR BLANK TEST**, and a **CALIBRATION TEST**.

## Other Breath Test

**NOTE:** If a sufficient breath sample was *not* acquired, follow the steps in the 'Breath Test Error' section. If the Calibration Test Failed, a Breath Test cannot be performed until the solution has been changed and a **PER-TEST** has been conducted. Contact the 'Officer in Charge for further instructions.

### PRINT RESULTS <Y/N>

- Enter 'Y' to print 1 copy of the report.
  - **Make sure the printout is accurate and readable.** Once the data is downloaded into the CPC or the BPC, copies of the printout cannot be retrieved.
- Enter 'N' to proceed to the next prompt.

### PRINTOUT COMPLETE? <Y>ES <R>ETRY

- Enter 'Y' to complete the printout process and return to the **READY** mode, or
- Enter 'R' to redisplay the **PRINT RESULTS <Y/N>** option.

Once the form is printed to satisfaction the instrument will display **DATA STORED, REMOVE MOUTHPIECE,** and will return to the **READY** mode.

## DOT Screening Test

After entering the 'Operator' information, press **4** to proceed with the 'DOT' test. The LCD will display the Test number, along with the two DOT testing options: **TEST NO. XXXXX <1> SCREEN <2> CONFIRMATI**

Enter **1** to perform a DOT Screening test. Follow the instructions on the LCD display, and enter the information into each field following the prompts.

### LICENSE IN POSSESSION <Y/N>

- If 'Yes', **SCAN CARD OR PRESS ESC** will appear on the display.
  - **Scan the drivers license.** Wait a few seconds after scanning in the driver's license for the information on the driver's license to download/register into the 7110. If the driver's license scans correctly, the operator will need to enter limited information about the subject. Verify the data is correct and press the '**Enter**' key after each prompt.
  - **Press Esc to manually enter the driver's license number.** If the driver's license does not scan properly, or is not in the subject's possession, the operator will be required to enter all of the necessary information about the subject via the keyboard.
- If 'No', type in the information required after the following prompts.

**EMPLOYEE LAST NAME:**

**EMPLOYEE FIRST NAME:**

**EMPLOYEE MIDDLE INITIAL:**

**EMPLOYEE SSN/ID# :**

- This a mandatory entry, maximum of 24 alpha-numerical characters.

### REVIEW DATA <Y/N>

- Enter 'Y' to display the previous entries.
  - Verify the data is correct and press the '**Enter**' key after each entry is displayed. *Correct errors by typing the new data into the correct prompt and pressing the '**Enter**' key.*
- Enter 'N' to continue with the Breath Test sequence.
  - The 7110 will proceed with a **PURGING** cycle, an **AMBIENT AIR CHECK** followed by an **AIR BLANK CHECK**.

### PLEASE BLOW/R >

*If the subject refuses to take a Breath Test press 'R' and follow the instructions in the 'Breath Test Refusal' section.*

- Remove the breath hose from the storage recess and insert a new mouthpiece.
- If possible, the subject should be seated at the time of the Breath Test.
- Instruct the subject to inhale calmly and then blow continuously and evenly into the mouthpiece for as long as possible. *Asterisks*, on the display, indicate if an adequate breath sample is being delivered.
- The subject should continue to blow until **STOP** is displayed on the LCD.
- If a sufficient breath sample was acquired, the 7110 will proceed with a **PURGING** cycle, an **AMBIENT AIR CHECK**, and an **AIR BLANK TEST**.
- If a sufficient breath sample was *not* acquired, follow the steps in the 'Breath Test Errors' section.

### RESULT: 0.000 % BAC

- Displays the BAC level from the Breath test on the LCD for 20 seconds.
- Press the '**Enter**' key to print 1 copy of the report and proceed to the next prompt.
  - **Make sure the printout is accurate and readable.** Once the data is downloaded into the CPC or the BPC, copies of the printout cannot be retrieved.

### PRINTOUT COMPLETE? <Y>ES <R>ETRY

- Enter 'Y' to complete the printout process. The instrument will display **DATA STORED, REMOVE MOUTHPIECE**, and return to the **READY** mode.
- Enter 'R' to print an additional copy of the report and redisplay the **PRINTOUT COMPLETE?** <Y>ES <R>ETRY option.

## DOT Confirmation Test

After entering the 'Operator' information, press **4** to proceed with the 'DOT' test. The LCD will display the Test number, along with the two DOT testing options: **TEST NO. XXXXX <1> SCREEN <2> CONFIRMATI**

Enter **2** to perform a DOT Confirmation test. Follow the instructions on the LCD display, and enter the information into each field following the prompts.

### LICENSE IN POSSESSION <Y/N>

- If 'Yes', **SCAN CARD OR PRESS ESC** will appear on the display.
  - **Scan the drivers license.** Wait a few seconds after scanning in the driver's license for the information on the driver's license to download/register into the 7110. If the driver's license scans correctly, the operator will need to enter limited information about the subject. Verify the data is correct and press the 'Enter' key after each prompt.
  - **Press Esc to manually enter the driver's license number.** If the driver's license does not scan properly, or is not in the subject's possession, the operator will be required to enter all of the necessary information about the subject via the keyboard.
- If 'No', type in the information required after the following prompts.

**EMPLOYEE LAST NAME:**

**EMPLOYEE FIRST NAME:**

**EMPLOYEE MIDDLE INITIAL:**

**EMPLOYEE SSN/ID# :**

- This a mandatory entry, maximum of 24 alpha-numerical characters.

### REVIEW DATA <Y/N>

- Enter 'Y' to display the previous entries.
  - Verify the data is correct and press the 'Enter' key after each entry is displayed. *Correct errors by typing the new data into the correct prompt and pressing the 'Enter' key.*
- Enter 'N' to continue with the Breath Test sequence.
  - The 7110 will proceed with a **PURGING** cycle, an **AMBIENT AIR CHECK** followed by an **AIR BLANK CHECK**.

### PLEASE BLOW/R >

*If the subject refuses to take a Breath Test press 'R' and follow the instructions in the 'Breath Test Refusal' section.*

- Remove the breath hose from the storage recess and insert a new mouthpiece.
- If possible, the subject should be seated at the time of the Breath Test.
- Instruct the subject to inhale calmly and then blow continuously and evenly into the mouthpiece for as long as possible. *Asterisks*, on the display, indicate if an adequate breath sample is being delivered.
- The subject should continue to blow until **STOP** is displayed on the LCD.
- If a sufficient breath sample was acquired, the 7110 will proceed with a **PURGING** cycle, an **AMBIENT AIR CHECK**, an **AIR BLANK TEST**, and a **CALIBRATION TEST**.

<p><b>NOTE:</b> If a sufficient breath sample was <i>not</i> acquired, follow the steps in the 'Breath Test Error' section.</p> <p>If the Calibration Test Failed, a Breath Test cannot be performed until the solution has been changed and a <b>PER-TEST</b> has been conducted. Contact the 'Officer in Charge for further instructions.</p>
---

## DOT Confirmation Test

### RESULT: 0.000 % BAC

- Displays the BAC level from the Breath Test on the LCD for 20 seconds.
- Press the '**Enter**' key to print 1 copy of the report and proceed to the next prompt.
  - **Make sure the printout is accurate and readable.** Once the data is downloaded into the CPC or the BPC, copies of the printout cannot be retrieved.

### PRINTOUT COMPLETE? <Y>ES <R>ETRY

- Enter '**Y**' to complete the printout process. The instrument will display **DATA STORED**, **REMOVE MOUTHPIECE**, and return to the **READY** mode.
- Enter '**R**' to print an additional copy of the report and redisplay the **PRINTOUT COMPLETE?** <Y>ES <R>ETRY prompt.



## Breath Test Refusal

### Implied Consent Refusal

If the subject refuses to take the Breath Test while performing an Implied Consent test, the following prompts will appear either after pressing '**Y**' at the **REFUSED BREATH TEST** prompt, or after pressing '**R**' at the **PLEASE BLOW/R** prompt and selecting '**1**' from the **<1> REFUSAL <2> UNABLE <3> RESTART TEST** Menu.

**PLACE OF REFUSAL:**

**DATE OF REFUSAL:**

- Enter the date in MM/DD/YYYY format.

**REFUSAL OFFICER:**

**REFUSAL WITNESS:**

**ISSUE TEMPORARY LICENSE? <Y/N>:**

- If '**Yes**', continue with the questions and a 'Temporary License' will print out after the next prompt.
- If '**No**', continue with questions.

**REVIEW DATA <Y/N>**

- '**Y**' will display the previous entries. Verify the data in each entry is correct and press the '**Enter**' key after each entry is displayed. *Correct errors by typing the new data into the correct prompt and pressing the '**Enter**' key.* When finished reviewing data, the **REVIEW DATA <Y/N>** screen will re-appear.
- '**N**' will display **SUBJECT REFUSED** on the LCD followed by **COPIES? 1-5**.
  - Enter the number of printouts required.
  - **Make sure the printout is accurate and readable.** Once the data is downloaded into the CPC or the BPC, copies of the printout cannot be retrieved.

**PRINTOUT COMPLETE? <Y>ES <R>ETRY** will appear on the screen.

- Enter '**Y**' to complete the printout process, or
- Enter '**R**' to re-print the form and return to the **COPIES? 1-5** prompt.

Once the form is printed to satisfaction **DATA STORED** will appear on the LCD, followed by a **PURGING** cycle, **REMOVE MOUTHPIECE** will appear and the instrument will return to the **READY** mode.

### Protective Custody Refusal

If the subject refuses to take the Breath Test at the **PLEASE BLOW/R** prompt, during a Protective Custody test, press '**R**' to display the following menu: **<1> REFUSAL <2> UNABLE <3> RESTART TEST**

Press '**1**' for Refusal.

- **SUBJECT REFUSED** will appear on the LCD.

**PRINT RESULTS <Y/N>**

- Enter '**Y**' to display **COPIES? 1-5**.
  - Enter the number of printouts required.
  - **Make sure the printout is accurate and readable.** Once the data is downloaded into the CPC or the BPC, copies of the printout cannot be retrieved.
- Enter '**N**' to proceed to the next prompt.

**PRINTOUT COMPLETE? <Y>ES <R>ETRY**

- Enter '**Y**' to complete the printout process and return to the **READY** mode, or
- Enter '**R**' to return to the **PRINT RESULTS <Y/N>** prompt.

Once the form is printed to satisfaction **DATA STORED** will appear on the LCD, followed by a **PURGING** cycle, **REMOVE MOUTHPIECE** will appear and the instrument will return to the **READY** mode.

## Breath Test Refusal

### Other Refusal

If the subject refuses to take the Breath Test at the **PLEASE BLOW/R** prompt, during the 'Other' test, press 'R' to display the following menu: <1> **REFUSAL** <2> **UNABLE** <3> **RESTART TEST**

Press '1' for Refusal.

- **SUBJECT REFUSED** will appear on the LCD.

**PRINT RESULTS <Y/N>**

- Enter 'Y' to display **PRINTING**. One copy of the report is automatically printed.
  - **Make sure the printout is accurate and readable.** Once the data is downloaded into the CPC or the BPC, copies of the printout cannot be retrieved.
- Enter 'N' to proceed to the next prompt.

**PRINTOUT COMPLETE? <Y>ES <R>ETRY**

- Enter 'Y' to complete the printout process and return to the **READY** mode, or
- Enter 'R' to return to the **PRINT RESULTS <Y/N>** prompt.

Once the form is printed to satisfaction **DATA STORED** will appear on the LCD, followed by a **PURGING** cycle, **REMOVE MOUTHPIECE** will appear and the instrument will return to the **READY** mode.

### DOT Screening and Confirmation Refusal

If the subject refuses to take the Breath Test at the **PLEASE BLOW/R** prompt, during either of the DOT tests, press 'R' to display the following menu: <1> **REFUSAL** <2> **UNABLE** <3> **RESTART TEST**

Press '1' for Refusal.

- **SUBJECT REFUSED** will appear on the LCD followed by **PRINTING** (the 7110 automatically prints a DOT refusal report).

**PRINTOUT COMPLETE? <Y>ES <R>ETRY**

- Enter 'Y' to complete the printout process and return to the **READY** mode, or
- Enter 'R' to print another copy and return to the **PRINTOUT COMPLETE? <Y>ES <R>ETRY** prompt.

Once the form is printed to satisfaction **DATA STORED** will appear on the LCD, followed by a **PURGING** cycle, **REMOVE MOUTHPIECE** will appear and the instrument will return to the **READY** mode.

## Breath Test Errors

Any interruption of blowing or failure to satisfy the minimum requirements, such as minimum value and minimum flow rate, will result in an insufficient breath sample. Depending on the problem encountered, one of the following messages may appear on the LCD.

**MINIMUM VOLUME NOT ACHIEVED**  
**BLOWING TIME TOO SHORT**  
**BLOWING NOT ALLOWED**  
**PLATEAU NOT ACHIEVED**  
**READY TO BLOW EXPIRED**

- If **MINIMUM VOLUME NOT ACHIEVED** appears on the LCD, the subject needs to blow for a longer time.
- If **BLOWING TIME TOO SHORT** appears on the LCD, have the subject take a deeper breath and blow for a longer time or at a slower rate.
- If **BLOWING NOT ALLOWED** appears on the LCD, ensure that the subject waits for the **PLEASE BLOW** message to appear on the display before blowing into the instrument.
- If **PLATEAU NOT ACHIEVED** appears on the LCD, have the subject take another breath and repeat the Breath Test.

If an insufficient breath sample was provided, the Breath Test *must* be repeated. If any of the above messages are displayed, the **BREATH TEST WILL BE REPEATED** message will appear and the 7110 will proceed with a **PURGING** cycle, an **AMBIENT AIR CHECK**, an **AIR BLANK CHECK**, and will return to the **PLEASE BLOW/R >** prompt.

If, after the third try, the subject fails to blow properly, the following Menu will appear:

**<1> REFUSAL <2> UNABLE <3> RESTART TEST**

Select Option 1 (**REFUSAL**) if the subject refuses to take the Breath Test. *Refer to the 'Breath Test Refusal' section for further instructions.*

Select Option 2 (**UNABLE**) if the subject is unable to provide a Breath Test.

- The LCD will display **UNABLE TO PROVIDE SAMP** followed by **COPIES? 1-5**
  - Enter the number of printouts required.
  - **Make sure the printout is accurate and readable.** Once the data is downloaded into the CPC or the BPC, copies of the printout cannot be retrieved.
- **PRINTOUT COMPLETE? <Y>ES <R>ETRY** will appear.
  - Enter 'Y' to complete the process.
  - Enter 'R' to reprint the forms.
- Once the form is printed to satisfaction, **DATA STORED** will appear on the LCD, followed by a **PURGING** cycle .
- **REMOVE MOUTHPIECE** will appear and the instrument will return to the **READY** mode.

Select Option 3 (**RESTART TEST**) to restart the Breath Test sequence.

- The 7110 will then proceed with a **PURGING** cycle, an **AMBIENT AIR CHECK**, and an **AIR BLANK CHECK**.
- When **PLEASE BLOW/R >** appears, the operator can perform a Breath Test.

# Fault - Cause - Remedy - Table

FAULT MESSAGE	POSSIBLE CAUSE	REMEDY
<AMBIENT AIR CHECK FAILED>	Fuel Cell detected alcohol in the IR cuvette.	Ensure that the ambient air is free of alcohol vapors.
<BLOWING NOT ALLOWED>	Blowing without being prompted to do so.	Repeat test.
<BLOWING TIME TOO SHORT>	The blowing duration was less than the minimum required time.	Repeat the breath test. The instrument will ask for another breath sample.
<CALIBRATION TEST FAILED>	The Calibration Test result was outside the set tolerance, or the Solution Value may have been entered incorrectly.	Use new solution, check simulator temperature, and check lid for a tight seal. Contact the 'Officer in Charge' if the above methods do not remedy the situation.
<ERROR STORING DATA>	Data storage area is either uninitialized or completely full.	Upload data (if any), initialize memory area.
<INTERFERENCE>	Interfering substance detected.	Repeat the test. If breath test cannot be completed, refer to the state regulatory options.
<KEYBOARD ERROR>	Faulty keyboard.	Repeat function. If necessary, disconnect the existing keyboard and reconnect. If the error still appears, connect a new keyboard to the 7110 instrument.
<MEMORY NEARLY FULL>	Data storage area nearly full.	Upload data.
<MINIMUM VOLUME NOT ACHIEVED>	The provided breath volume is less than the minimum required volume.	Repeat the breath test. The 7110 instrument will initiate another breath sample.
<MODEM ERROR>	Faulty modem.	Attempt to re-initialize modem.
<MOUTH ALCOHOL>	Residual mouth alcohol detected. Either the observation period was insufficient, or the subject may have vomited or belched prior to the test.	Repeat test after specified waiting time.
<OUT OF MEASURING RANGE>	The breath test result is higher than the acceptable measuring range: (0.00 to 0.63% BAC)	Subject should be checked by a physician immediately!

**Fault - Cause - Remedy - Table**

<b>FAULT MESSAGE</b>	<b>POSSIBLE CAUSE</b>	<b>REMEDY</b>
<b>&lt;PLATEAU NOT REACHED&gt;</b>	The provided breath sample has not reached a plateau (equilibrium).	Repeat the breath test. The instrument will initiate another breath sample.
<b>&lt;PURGING ERROR&gt;</b>	No air, or not enough air flow was detected to purge the system.	Make sure that neither the breath hose nor the cuvette exhaust port is obstructed.
<b>&lt;READY TO BLOW EXPIRED&gt;</b>	The maximum allowable time to deliver a breath sample has expired.	Repeat test.
<b>&lt;SIMULATOR TEMP. ERROR&gt;</b>	<p>The Simulator is not turned on.</p> <p>Simulator not warming to correct operating temperature (33.8° - 34.2° C).</p> <p>Simulator out of Calibration.</p>	<p>Make sure the Simulator is turned on and ensure that all of the connections are properly made.</p> <p>Let Simulator warm up to correct temperature and attempt to test again. If Simulator does not reach operating temperature within 30 minutes contact OAT.</p> <p>Contact the 'Officer in Charge' or OAT to replace the Simulator.</p>
<b>&lt;TESTS NOT WITHIN ± TOL.&gt;</b>	Test results are out of ± tolerance.	The 7110 will initiate a 3rd Breath test if any two tests are out of tolerance.

## Hardware - System Errors

The Alcotest 7110 MKIII-C is equipped with error analysis codes. If any hardware errors appear on the 7110 LCD, contact the Draeger service department, or a Draeger certified technician.

ERROR CODE	ERROR NAME	POTENTIAL REASON FOR ERROR
002	MAIN-SYSTEM, EEPROM Memory	Defective memory cell.
004	MAIN-SYSTEM, External RAM memory	Defective memory cell.
008	MAIN-SYSTEM, Battery for memory	Discharged battery.
009	MAIN-SYSTEM, Power supply	12 VDC insufficient. Turn instrument 'Off' and 'On' again.
023	IR-SYSTEM	IR-System not stabile. Call Draeger.
031	EC-SYSTEM, EC-signal	Incorrect voltage, or early warning that the fuel cell may need to be replaced.
032	EC-SYSTEM, Sampling system.	Motor, pump, switch.
035	EC-SYSTEM, EC-peak signal	Signal peak not found.
041	FLOW-SYSTEM, Flow sensor	Short or interrupted circuit.
043	FLOW-SYSTEM, Purge	Insufficient flow for air blank. Check to see that back of unit is not obstructed.
051	PRESSURE-SYSTEM, Pressure sensor	Short or interrupted circuit.
071	HEATER-SYSTEM, NTC for cuvette	Short or interrupted circuit.
072	HEATER-SYSTEM, NTC for breath hose	Short or interrupted circuit.
073	BREATH TEMP PROBE HEATER	Breath temperature probe malfunctioning.
075	HEATER-SYSTEM, Temperature(s)	Cuvette, or breath hose-heater malfunctioning.
112	CALIBRATION, Calibration data	Lost data in EEPROM.

## Special Functions

Operator cards can have up to five levels of access. Depending on the operator's level of access, the following functions may or may not be available to the operator. Each level of access is encoded on the operator cards.

Access a Special Function, by pressing the '**Esc**' key on the keyboard, typing in the function name at the **FUNCTION:** prompt (i.e. **FUNCTION: COPY**) and pressing the '**Enter**' key. Press the '**Esc**' key to exit a function and return to the **READY** mode.

### 0 Level Access - Refusal

Any cards with this access level can only be used for accessing the questions that need to be answered if a subject refuses a breath test.

### 1 Level Access - Training

Any cards with this access level can only be used for training purposes. Any tests or functions that are performed using a card encoded with access level 1 will be deemed training and not valid tests.

### 2 Level Access - Operator

Any cards with this access level can be used to perform Breath tests on the Alcotest 7110 MKIII-C. However, the DOT Breath tests cannot be performed by this access level unless the operator is also trained as a BAT operator.

### 3 Level Access - 2nd Level Operator / Officer in Charge

Any cards with this access level can be used to perform Breath tests, except for the DOT Breath tests. This access level is also able to perform Periodic tests when necessary.

### 4 Level Access - Supervisor / Authorized Personnel

Any cards with this access level can be used to do all of the above stated tests and functions. This access level is also able to operate some of the other functions performed by the Alcotest 7110 MKIII-C. For more information on what functions this access level can perform, see the Function table on the following pages.

### 5 Level Access - Administration / OAT

This access level can perform all of the above stated tests and functions along with the ability to perform any certifications and other functions that the other access levels cannot. For more information on what functions this access level can perform, see the Function table on the following pages.

### PC Level Access

Functions and tests can be performed remotely by the PC. For more information on which functions can be accessed by the PC, see the Functions table on the following pages.

**MA 7110 SYSTEM**

FUNCTION	EXPLANATION	0	1	2	3	4	5	PC
<b>ABA</b>	<p><b>&lt;1&gt; # TESTS</b></p> <ul style="list-style-type: none"> <li>- Enter number of tests between 1 and 20.</li> </ul> <p><b>&lt;2&gt; GAS TYPE</b></p> <ul style="list-style-type: none"> <li>- Pre-defined.</li> </ul> <p><b>&lt;3&gt; GO</b></p> <ul style="list-style-type: none"> <li>- Will run Breath Test sequence according to parameter settings in &lt;1&gt; and &lt;2&gt;.</li> </ul> <p><i>Press 'Esc' to exit menu, enter Service Notes, and return to the 'READY' mode.</i></p>	O	O	O	O	X	X	X
<b>CALIBRATE</b>	<p><b>STND-GAS (0.095..0.160 % BAC): -.-</b></p> <ul style="list-style-type: none"> <li>- Runs calibration test.</li> <li>- Operator is prompted to enter appropriate information for parameters of test.</li> </ul> <p><b>NOTE:</b> Before performing this test you may encounter a message stating <b>CALIBRATE THE UNIT XX:XX LATER</b>. If this message appears, the instrument is unable to run the test at that time because of possible fuel-cell fatigue. The 'wait' time will be displayed in hours and minutes.</p> <p><i>Press 'Esc' to exit menu, enter Service Notes, and return to the 'READY' mode.</i></p>	O	O	O	O	X	X	O
<b>COPY</b>	<p><b>&lt;1&gt; LAST TEST</b></p> <ul style="list-style-type: none"> <li>- Allows operator to obtain a copy of the last test performed on the 7110.</li> </ul> <p><b>&lt;2&gt; BY TEST #</b></p> <ul style="list-style-type: none"> <li>- Allows operator to obtain a copy of a test by using a sequential test number.</li> </ul> <p><b>NOTE:</b> This option is valid prior to CPC or BPC data retrieval. If <b>FUNCTION NOT POSSIBLE</b> appears on the LCD, the data has already been retrieved by the CPC or the BPC.</p>	X	X	X	X	X	X	X
<b>DATE</b>	Displays the date and time.	X	X	X	X	X	X	X
<b>EBT-CERT</b>	Allows the operator to certify the accuracy of the breath tester.	O	O	O	O	O	X	X
<b>EBT-COPY</b>	<p><b>&lt;1&gt; LAST TEST</b></p> <ul style="list-style-type: none"> <li>- Allows operator to obtain a copy of the last <b>EBT -CERT</b> test performed on the 7110.</li> </ul> <p><b>&lt;2&gt; BY TEST #</b></p> <ul style="list-style-type: none"> <li>- Allows operator to obtain a copy of an <b>EBT-CERT</b> test by sequential test number.</li> </ul> <p><b>NOTE:</b> This option is valid prior to CPC or BPC data retrieval. If <b>FUNCTION NOT POSSIBLE</b> appears on the LCD, the data has already been retrieved by the CPC or the BPC.</p>	X	X	X	X	X	X	X



## MA 7110 SYSTEM

FUNCTION	EXPLANATION	0	1	2	3	4	5	PC
<b>LOCAL-PRINT</b>	This option allows the operator to send printed messages from the PC host computer (OAT) to the 7110 instrument. <ul style="list-style-type: none"> <li>- Click on the 'Interactive' button located in the host PC (OAT) 'Intranet Host' application box to access this option.</li> <li>- Maximum 24 characters allowed per string. Use the 'Enter' key to make a new line, use the 'Esc' key to end the message.</li> </ul>	0	0	0	0	0	0	X
<b>LOCATION</b>	Displays name of location. <ul style="list-style-type: none"> <li>- Type in a new city name to change location.</li> </ul> <p><i>Press the 'Enter' key to exit the menu, enter Service Notes, and return to the 'READY' mode.</i></p>	0	0	0	0	X	X	X
<b>MEMORY</b>	<b>&lt;1&gt; CLEAR MEM</b> <ul style="list-style-type: none"> <li>- Clears all stored data in 7110 memory.</li> </ul> <b>&lt;2&gt; SHOW MEM</b> <ul style="list-style-type: none"> <li>- Displays % of used 7110 memory.</li> </ul> <b>&lt;3&gt; -----</b> <ul style="list-style-type: none"> <li>- Function not available.</li> </ul> <p><i>Press 'Esc' to exit menu, enter Service Notes, and return to the 'READY' mode.</i></p>	0	0	0	0	X	X	X
<b>MESSAGE</b>	<b>ENTER STRING, PRESS ENTER, ESC TO STOP</b> <ul style="list-style-type: none"> <li>- 7110 sends message to OAT server via the "CALL" function or a host initiated data retrieval.</li> <li>- Maximum 40 characters per string.</li> <li>- Use the 'Enter' key to start a new line.</li> <li>- Use the 'Esc' key to end the message.</li> </ul>	X	X	X	X	X	X	0
<b>MODEM</b>	<b>&lt;1&gt; HOST NUMBER</b> <ul style="list-style-type: none"> <li>- Enter host modem number.</li> </ul> <b>&lt;2&gt; DIAL</b> <ul style="list-style-type: none"> <li>- 7110 calls host for data upload.</li> <li>- Not possible from host PC.</li> </ul> <b>&lt;3&gt; INIT MODEM</b> <ul style="list-style-type: none"> <li>- Tests and initializes modem.</li> <li>- Not possible from host PC.</li> </ul> <p><i>Press 'Esc' to exit menu, enter Service Notes, and return to the 'READY' mode.</i></p>	0	0	0	0	X	X	0
<b>OPTIONS</b>	<b>&lt;1&gt; TIME</b> <ul style="list-style-type: none"> <li>- Enter time in HH:MMAM/PM format.</li> </ul> <b>&lt;2&gt; DATE</b> <ul style="list-style-type: none"> <li>- Enter date in MM/DD/YYYY format.</li> </ul> <b>&lt;3&gt; UNITS</b> <ul style="list-style-type: none"> <li>- Function not possible.</li> </ul> <p><i>Press 'Esc' to exit menu, enter Service Notes, and return to the 'READY' mode.</i></p>	0	0	0	0	X	X	X

## MA 7110 SYSTEM

FUNCTION	EXPLANATION	0	1	2	3	4	5	PC
<b>PER-COPY</b>	<b>&lt;1&gt; LAST TEST</b> <ul style="list-style-type: none"> <li>- Allows operator to obtain a copy of the last <b>PER-TEST</b> performed on the 7110.</li> </ul> <b>&lt;2&gt; BY TEST #</b> <ul style="list-style-type: none"> <li>- Allows operator to obtain a copy of a <b>PER-TEST</b> by sequential test number.</li> </ul> <p><i>NOTE:</i> This option is valid prior to CPC or BPC data retrieval. If <b>FUNCTION NOT POSSIBLE</b> appears on the LCD, the data has already been retrieved by the CPC or the BPC.</p>	X	X	X	X	X	X	X
<b>PER-TEST</b>	Periodic Test checks accuracy of solution percentage and temperature. This function also resets the values in the <b>SOLN-DAYS</b> and <b>SOLN-TESTS</b> functions.	O	O	O	X	X	X	X
<b>PRINTOUT</b>	<b>&lt;1&gt; # PRINTOUTS</b> <ul style="list-style-type: none"> <li>- Press 1 followed by number of printouts requested (internal printer only).</li> </ul> <b>&lt;2&gt; TEXT - INP</b> <ul style="list-style-type: none"> <li>- Press 2. Toggle <b>PROTOCOL-ITEMS</b> 'On' and 'Off' by pressing the 'Enter' key.</li> <li>- This feature allows a Breath test to be performed without entering all of the protocol items.</li> </ul> <b>&lt;3&gt; INT/EXT</b> <ul style="list-style-type: none"> <li>- Press 3. Use the space bar to Toggle between printer options: internal, external, or internal and external.</li> </ul> <p><i>Press 'Esc' to exit menu, enter Service Notes, and return to the 'READY' mode.</i></p>	O	O	O	O	X	X	X
<b>PROBE</b>	<b>&lt;1&gt; SHOW</b> <ul style="list-style-type: none"> <li>- Displays simulator solution temperature.</li> </ul> <b>&lt;2&gt; ADJUST</b> <ul style="list-style-type: none"> <li>- Enter probe-value from the Simulator Temperature Probe tag.</li> </ul> <p><i>NOTE:</i> Probe only reads accurately with specific Probe value entered.</p> <b>&lt;3&gt; AUTO-ADJUST</b> <ul style="list-style-type: none"> <li>- Function not possible.</li> </ul> <p><i>Press 'Esc' to exit menu, enter Service Notes, and return to 'READY' mode.</i></p>	O	O	O	O	X	X	X
<b>SECURITY-KEY</b>	<b>INSERT SECURITY-KEY:</b> <ul style="list-style-type: none"> <li>- Type in the security key and press 'Enter'.</li> </ul> <b>CONFIRM SECURITY KEY:</b> <ul style="list-style-type: none"> <li>- Re-type the security key and press 'Enter'.</li> </ul> <p>This function allows the operator to customize the security key and prevent unauthorized communication with the 7110 instrument.</p>	O	O	O	O	X	X	X

## MA 7110 SYSTEM

FUNCTION	EXPLANATION	0	1	2	3	4	5	PC
<b>SET-CLOCK</b>	<b>PLEASE INSERT: MM/DD/YYYY HH:MMAM/PM</b> <ul style="list-style-type: none"> <li>- Enter date and time - 12 hour clock.</li> <li>- A lithium battery maintains the time and date.</li> </ul> <p><b>NOTE:</b> If <b>SET THE CLOCK AT A LATER TIME</b> appears, the operator must wait until the alcohol level in the fuel cell diminishes to an acceptable range. Access the <b>CALIBRATE</b> function to display the 'wait' time (in hours and minutes).</p>	O	O	O	O	X	X	X
<b>SIM-CERT</b>	Allows the operator to certify the accuracy of the simulator being used with the 7110.	O	O	O	O	O	X	X
<b>SIM-COPY</b>	<b>&lt;1&gt; LAST TEST</b> <ul style="list-style-type: none"> <li>- Allows operator to obtain a copy of the last <b>SIM-CERT</b> test performed on the 7110.</li> </ul> <b>&lt;2&gt; BY TEST #</b> <ul style="list-style-type: none"> <li>- Allows operator to obtain a copy of a <b>SIM-CERT</b> test by sequential test number.</li> </ul> <p><b>NOTE:</b> This option is valid prior to CPC or BPC data retrieval. If <b>FUNCTION NOT POSSIBLE</b> appears on the LCD, the data has already been retrieved by the CPC or the BPC.</p>	X	X	X	X	X	X	X
<b>SIM-EQULIB</b>	<b>MINUTES OF EQUILIBRIUM DELAY (0-120):</b> <ul style="list-style-type: none"> <li>- Allows the operator to set the maximum time on the countdown timer (0 - 120 minutes) for the Simulator to reach equilibrium during the 'Warm-up' phase.</li> </ul> <p><i>Press 'Enter' to exit the menu, enter Service Notes, and return to the 'READY' mode.</i></p>	O	O	O	O	X	X	X
<b>SIM-POWER</b>	<b>SIMULATOR POWER:</b> <ul style="list-style-type: none"> <li>- Use the space bar to toggle the Simulator power supply 'On' and 'Off'.</li> </ul> <p><i>Press 'Enter' to exit the menu, enter Service Notes, and return to the 'READY' mode.</i></p>	O	O	O	O	X	X	X
<b>SIMTEMP</b>	<b>&lt;1&gt; SHOW</b> <ul style="list-style-type: none"> <li>- Displays the Simulator solution temperature.</li> </ul> <b>&lt;2&gt; ADJUST</b> <ul style="list-style-type: none"> <li>- Displays <b>OFFSET (200...5000):</b> The Offset value can change depending on the Auto-Adjust function.</li> <li>- Press 'Enter' to display <b>GAIN (200...5000): 2687</b> The value for Gain should always be 2687.</li> </ul> <b>&lt;3&gt; AUTO-ADJUST</b> <ul style="list-style-type: none"> <li>- Automatically adjusts the 7110's temperature probe settings to read a calibrated temperature probe, enabling the 7110 to read the newly calibrated probe value correctly.</li> </ul> <p><i>Press 'Esc' to exit the menu, enter Service Notes, and return to the 'READY' mode.</i></p>	O	O	O	O	X	X	O

# MA 7110 SYSTEM

FUNCTION	EXPLANATION	0	1	2	3	4	5	PC
<b>SIM-WARMUP</b>	<b>MINUTES FOR SIM. WARMUP (0...120):</b> <ul style="list-style-type: none"> <li>- Allows the operator to set the maximum time on the countdown timer (in minutes) for the Simulator to 'Warm-up'.</li> </ul>	O	O	O	O	X	X	O
<b>SOLN-DAYS</b>	<b>SOLUTION CHANGE DAYS LIMIT:</b> <ul style="list-style-type: none"> <li>- The operator can set the maximum number of days allowed before the Simulator solution change is required.</li> </ul> <p><b>NOTE:</b> The number of days is automatically reset, when the <b>PER-TEST</b> function is executed.</p>	O	O	O	O	X	X	X
<b>SOLN-TESTS</b>	<b>SOLUTION CHANGE TEST LIMIT:</b> <ul style="list-style-type: none"> <li>- The operator can set the maximum number of Calibration tests allowed before the Simulator solution change is required.</li> </ul> <p><b>NOTE:</b> The number of tests is automatically reset, when the <b>PER-TEST</b> function is executed.</p>	O	O	O	O	X	X	X
<b>STND-CHECK</b>	Allows the operator to perform a standard check test on the 7110 instrument based on <b>STND-CONFIG</b> settings.	O	O	O	O	X	X	X
<b>STND-CONFIG</b>	<p><b>&lt;1&gt; # TESTS</b></p> <ul style="list-style-type: none"> <li>- Enter number of tests (between 1 and 20) to be performed.</li> </ul> <p><b>&lt;2&gt; INLET/GAS TYPE</b></p> <ul style="list-style-type: none"> <li>- Press 2 to access the 'Inlet' menu.</li> </ul> <p><b>&lt;1&gt; HOSE &lt;2&gt; CUV.INLET &lt;3&gt; GAS PORT</b></p> <ul style="list-style-type: none"> <li>- Select the appropriate inlet method by typing in the number and pressing the 'Enter' key. The 'Gas Type' menu will appear.</li> </ul> <p><b>&lt;1&gt;WET &lt;2&gt;WET + CO2 &lt;3&gt;DRY &lt;4&gt;DRY + CO2</b></p> <ul style="list-style-type: none"> <li>- Select the appropriate gas type method by typing in the number and pressing the 'Enter' key.</li> </ul> <p><b>&lt;3&gt; CONC/TOL (DOT testing purposes)</b></p> <ul style="list-style-type: none"> <li>- Press 3 to access the 'Concentration/Tolerance' menu.</li> </ul> <p><b>STND-GAS (0.080..0.160 % BAC):</b></p> <ul style="list-style-type: none"> <li>- Displays the concentration level of the 'Gas Type'.</li> <li>- Press 'Enter' to display the Absolute Tolerance Level.</li> </ul> <p><b>ABS-TOL (0.005..0.020 % BAC): .005</b></p> <ul style="list-style-type: none"> <li>- Press 'Enter' to display the Relative Tolerance Level.</li> </ul> <p><b>RELATIVE TOLERANCE [5%]</b></p> <p><i>Press 'Esc' to exit the menu, enter Service Notes, and return to the 'READY' mode.</i></p>	O	O	O	O	X	X	X
<b>TIME</b>	Displays the date and time.	X	X	X	X	X	X	X
<b>VERSION</b>	<b>FIRMWARE:</b> <ul style="list-style-type: none"> <li>- Displays the current firmware version.</li> </ul>	O	O	O	O	X	X	X

## Servicing

**Inspection of the instrument** is recommended every 12 months and should only be performed by Draeger Safety, Inc., Breathalyzer® Division, or Draeger Safety, Inc., Breathalyzer® Division certified technicians.

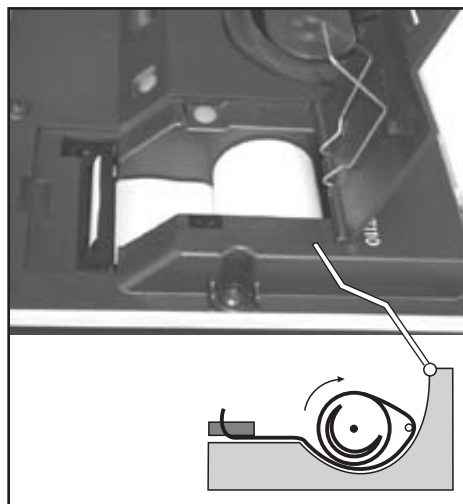
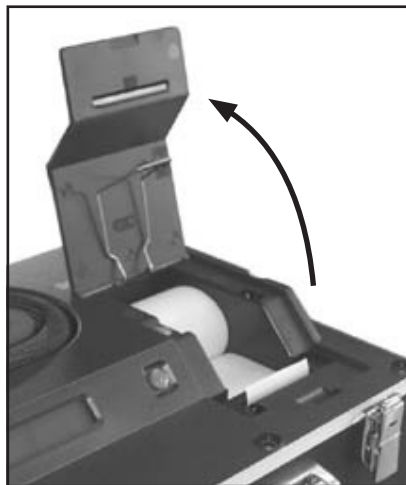
### Inserting Printer Paper

Do not operate the Alcotest® 7110 MKIII-C without a sufficient supply of paper!

**Remark:** A colored stripe on the edge of the paper roll indicates that the paper is nearly at its end.

#### Procedure:

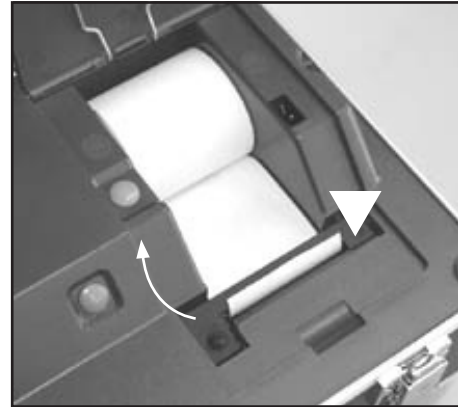
- Open lid of printer.
- Remove remaining paper roll.
- Place new paper roll into compartment.
- Route paper behind the metal bar.
- Insert paper into the slot of the printing mechanism.
- Depress the orange button to feed an appropriate amount of paper through the printer head.
- Route paper through the slot in lid.
- Close lid.



## Changing Printer Ribbon

Procedure:

- Open printer lid.
- Remove old cassette by pressing on right side of ribbon cassette marked "Push."
- Tighten the ribbon of new cassette by turning the knurled thumb wheel in direction of arrow.
- Insert and press new cassette into place.
- Close lid.



## Cleaning

- Disconnect power supply to the Alcotest® 7110 MKIII-C.
- Wipe instrument with a damp cloth.
- Dry thoroughly.

**NOTE:** *Do not use solvents or cleaning agents containing alcohol.  
Do not allow liquids to enter the Alcotest® 7110 MKIII-C housing or the  
breath hose.*

## Replacing Main Fuses

- Use screwdriver with appropriate blade.
- Unscrew both fuse covers.
- Replace defective fuses with new ones. Only use the specified miniature fuses!
- Replace both main fuse covers.